Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of:	)	
Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems	)	ET Docket No. 00-258

To the Commission:

COMMENTS OF WORLDCOM, INC.

WorldCom, Inc. ("WorldCom") hereby submits these Comments in response to the Final Report entitled "Spectrum Study of 2500 – 2690 MHz Band: The Potential for Accommodating Third Generation Mobile Systems" (the "Final Report") that was released on March 30, 2001, by the Office of Engineering and Technology, the Mass Media Bureau, the Wireless Telecommunications Bureau and the International Bureau.[1] WorldCom has a vital interest in the frequency band that is the subject of the Final Report, having recently invested over $1 billion for the rights to use this spectrum throughout the United States. WorldCom and other Multichannel Multipoint Distribution Service ("MMDS") and Instructional Television Fixed Service ("ITFS") providers are deploying advanced fixed wireless broadband services in the 2500 – 2690 MHz frequency band ("the 2.5 GHz band") and will be providing the first, or the first competitive, broadband "pipe" to millions of consumers in areas unserved or underserved by other broadband technologies.

[1] A Public Notice released by the Commission invited comments on the Final Report to be filed by April 16, 2001. *See* Public Notice DA 01 – 786 (rel. March 30, 2001).

WorldCom applauds the Commission's staff for the breadth and depth of the findings and conclusions set forth in the Final Report. WorldCom fully agrees with the Final Report's conclusion that third-generation mobile services ("3G") cannot be accommodated in the 2.5 GHz band without devastating the MMDS/ITFS services currently provided, and about to be deployed, throughout the United States. In addition, the Final Report recognizes that co-channel sharing is not possible and that band segmentation would raise significant technical and economic difficulties for MMDS/ITFS providers. The Final Report also correctly concludes that there are no alternate frequency bands available to accommodate a relocation of incumbent MMDS/ITFS systems.

With the release of the Final Report, WorldCom urges the Commission to proceed expeditiously to remove the cloud of uncertainty that hangs over the use of the 2.5 GHz band by MMDS/ITFS providers. Each new pleading cycle in this proceeding simply confirms the Commission's earlier interim findings, and the pleadings filed by MMDS/ITFS providers like WorldCom, that use of the 2.5 GHz band for 3G would significantly harm the delivery of two-way fixed wireless broadband services throughout the United States, especially to unserved and underserved markets.[2] It is time for the Commission to remove the 2.5 GHz band from consideration for 3G. As Commissioner Furchtgott-Roth stated at the time of the release at the Final Report:

> MDS and ITFS licensees have waited for years to have the flexibility and leasing rights that have now permitted their

[2] To date there have been four official pleading cycles in this proceeding: (1) oppositions/comments and replies in response to CTIA's Petition for Rulemaking; (2) comments on the Interim Report; (3) comments and reply comments in response to the Commission's Notice of Proposed Rulemaking; and (4) comments on the Final Report.

> symbiotic relationship to flourish. Tampering with this relationship (which the FCC itself created and encouraged) undermines certainty and will retard the development of the services we have spent years incubating.[3]

I. THE FINAL REPORT CONCLUSIVELY DEMONSTRATES THAT THE 2.5 GHZ BAND SHOULD NOT BE USED FOR 3G

The Final Report conclusively demonstrates that 3G cannot be accommodated in the 2.5 GHz band. Among the most significant findings in the Final Report that support this conclusion are the following:

First, the Final Report recognizes that the continued use of the 2.5 GHz band by MMDS/ITFS providers is in the public interest. It states that deployment of fixed wireless broadband services by MMDS/ITFS licensees in the 2500 – 2690 MHz frequency band "offer[s] a significant opportunity for further competition with cable and digital subscriber line (DSL) services in the provision of broadband services in urban and rural areas."[4] Indeed, the ability to provide the first, or the first competitive, broadband "pipe" to millions of consumers in areas unserved or underserved by other broadband technologies is a goal that the Commission has supported for years and one that should not be disrupted now.[5]

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[3] *See* Press Statement of Commissioner Harold Furchtgott-Roth Re: Spectrum Study of the 2500 – 2690 MHz Band, Final Report (rel. March 30, 2001).

[4] Final Report at ii.

[5] *See FCC Interim Report: Spectrum Study of the 2500 – 2690 MHz Band* at 23 (rel. Nov. 15, 2000) ("*FCC Interim Report*") ("In its *Second Report on the Availability of High-Speed and Advanced Telecommunications Services*, the Commission identified rural Americans, particularly those remote from major population centers, as being particularly vulnerable to not receiving access to advanced telecommunications services in a reasonable and timely basis."). *See also Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions*, 13 FCC Rcd. 19112, 19116 (1998) ("*Two Way Order*"), recon., 14 FCC Rcd. 12764 (1999), further recon., FCC 00-244 (rel. July 21, 2000).

Second, the Final Report concludes that the "lack of uniformity" in MMDS/ITFS use of the 2.5 GHz band throughout the United States "presents serious challenges to developing band sharing or segmentation options that could be used across the country without severely disrupting ITFS and MDS use."[6] With extensive leasing arrangements, channel swaps in various markets and flexible channel band plans for one-way and two-way MMDS/ITFS systems, it is not possible to develop uniform sharing or band segmentation options to accommodate 3G in the 2.5 GHz band. Indeed, sharing or band segmentation of the 2.5 GHz band between 3G and MMDS/ITFS would destroy the symbiotic relationship between MMDS and ITFS providers that has been, and will continue to be, critical to the successful and efficient deployment of MMDS/ITFS broadband services. As the Final Report appropriately states: "[s]eparation of [ITFS and MMDS] operations would have extensive policy ramifications beyond the scope of this study. It is not clear that either service would be viable if they were separated into different frequency bands, even if this were technically possible."[7]

Third, the technical analysis in the Final Report correctly concludes that sharing is not possible because large co-channel distances are needed between 3G and MMDS/ITFS systems to avoid interference.[8]

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[6] Final Report at ii.

[7] *Id.* at 60.

[8] *Id.* at ii. ("This technical analysis shows that if currently contemplated 3G systems were to share the same spectrum or channels in any given geographic area large co-channel separation distances would be needed between 3G systems and incumbent ITFS and MDS systems.").

Fourth, the Final Report supports the conclusion that band segmentation of the 2.5 GHz band is not possible for both technical and economic reasons. According to the Final Report:

> Segmenting the 2500 – 2690 MHz band to enable third generation mobile wireless systems access to a portion of this spectrum would raise significant technical and economic difficulties for incumbents. . . . While there may be long term options to segment the 2500 – 2690 MHz band, segmentation could affect the economics of current and planned ITFS and MDS systems and lessen their ability to provide service to rural areas or smaller markets. With reduced spectrum, ITFS/MDS providers may need to reduce their service areas and services to customers in outlying areas or add transmitter sites to maintain services.[9]

As WorldCom and others have demonstrated, band segmentation is not feasible because the reduction in available spectrum would have a dramatic negative impact on the commercial feasibility of fixed wireless broadband deployment in the United States.[10] In the words of Cisco Systems, Inc.: "[a]ny band segmentation plan would increase costs, delay market entry and significantly affect the business case for residential and rural markets."[11] Accordingly, implementation of band segmentation would at a minimum significantly delay the provision of

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[9] Final Report at ii – iii.

[10] *See* WorldCom Comments at 16; Nucentrix Broadband Networks, Inc. Comments at 8 ("[Band segmentation] would raise the cost of providing advanced fixed wireless services, and render these services economically non-viable in most areas."); Sprint Corporation Comments at 23; Cisco Systems, Inc. Comments at 5 ("Any infringement of MDS/ITFS spectrum will dramatically affect the rollout, capacity, and ultimately viability, of these advanced wireless services."). If, as the Commission suggests, the required guard band spectrum were to come from MMDS/ITFS spectrum, the negative impact of band segmentation and the reduction in available spectrum for MMDS/ITFS would be even more acute. *See* Final Report at 47. ("[T]he usable spectrum for ITFS/MDS systems would be further reduced from 100 megahertz based on the size of the guard band needed to protect adjacent channel operations.").

[11] Cisco Systems, Inc. Comments at 9.

advanced fixed wireless broadband services to the public, and, in all likelihood, cripple the MMDS/ITFS industries.

Fifth, the Final Report supports the view that there are no comparable frequency bands to relocate incumbent MMDS/ITFS providers. Specifically, the Final Report states:

> There is no readily identifiable alternate frequency band that could accommodate a substantial relocation of the incumbent operations in the 2500 – 2690 MHz band. Furthermore, relocation of ITFS/MDS operations to a band above 3 GHz would affect deployment of these systems to account for changes in signal propagation in higher bands. Relocation to higher bands could affect significantly the economics of current and planned ITFS and MDS systems and lessen their ability to provide service to rural areas or smaller markets. . . .Implementation of either the segmentation or relocation options would significantly affect deployment of and impose considerable costs on ITFS/MDS.[12]

As WorldCom and others have repeatedly demonstrated, relocation is not a viable option for MMDS/ITFS licensees because: (1) no suitable spectrum has been identified; (2) alternative spectrum raises a host of technological and pricing issues for manufacturers and operators; (3) relocation places MMDS/ITFS broadband services in limbo while suitable spectrum is located and cleared and new equipment is developed; and (4) it is impossible to compensate providers and users completely for the relocation of a mass-market service.[13]

WorldCom cannot emphasize enough the necessity that MMDS/ITFS providers operate in frequency bands below 3 GHz. While the Final Report acknowledges that relocation to bands above 3 GHz would "affect deployment" of MMDS/ITFS operations and "affect significantly the economics of current and planned ITFS and MDS systems," other statements in

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[12] Final Report at iii.

[13] *See* WorldCom Comments at 25 – 27.

the Final Report may be misconstrued to indicate that operations in bands above 3 GHz might be possible.[14] As WorldCom and others have demonstrated, deployment of two-way fixed wireless broadband operations is simply not feasible in bands above 3 GHz.[15] The ability of MMDS/ITFS licensees to provide advanced fixed broadband services to unserved and underserved markets is directly related to the favorable propagation characteristics of the 2.5 GHz band.[16] Indeed the propagation losses at higher frequencies will directly affect the commercial viability of MMDS/ITFS services.[17]

Sixth, the Final Report supports the conclusion that re-allocation of the 2.5 GHz band for 3G would not support global roaming or spectrum harmonization – a goal articulated by 3G proponents as being critical for 3G development. Specifically, it states that "there currently is no single global approach as to how the frequency bands identified at WARC-92 and WRC-

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[14] *See, e.g.,* Final Report at 64 ("Signal propagation losses [at 3700 – 4200/5925 – 6425 MHz] would increase somewhat, but the effect would not be as significant as higher bands."); *id.* at 68 ("The technical characteristics of this band [6425 – 7125 MHz] would be somewhat more challenging for ITFS/MDS, but would not be insurmountable.").

[15] *See* WorldCom Comments at 25; The Wireless Communications Association International, Inc. ("WCA") Comments at 30 – 32.

[16] *See* "MDS/MMDS/ITFS Two-Way Fixed Wireless Broadband Service: Spectrum Requirements and Business Case Analysis," HAI Consulting, Inc. at 8 - 9 (Feb. 22, 2001) (attached as Appendix B to WCA Comments).

[17] *See* Cisco Systems, Inc. Comments at 15 ("Because of propagation characteristics in the upper bands, a cell with a radius of approximately 20 miles in the MDS/ITFS band would shrink to less than a 14 mile radius at 3.7 GHz. The coverage remaining is less than half of its original reach: approximately 600 square miles instead of approximately 1,300 [square] miles. This reduction in coverage would have a dramatic effect on the ability of service providers in smaller markets and rural communities to bring broadband services to unserved areas.").

2000 will be used to implement 3G systems, and no consensus that common global bands for use by 3G systems are achievable."[18]

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In sum, the conclusions in the Final Report inescapably lead to the conclusion that 3G cannot be accommodated in the 2.5 GHz band. Like other MMDS/ITFS providers, WorldCom is delivering on one of the promises of the Communications Act and on the Commission's stated objectives to provide broadband telecommunications services to unserved and underserved markets, including many rural areas. The Final Report unequivocally supports a Commission decision not to reallocate any MMDS/ITFS spectrum because it would jeopardize the timely delivery of fixed wireless broadband services. Reallocation of any portion of the 2.5 GHz band from MMDS/ITFS services to 3G would be contrary to the conclusions in the Final Report, would create even more regulatory uncertainty, and would result in significant delays in the deployment of needed broadband services.

II. CONCLUSION

With the release of the Final Report, it is now time for the Commission to confirm that 3G cannot be accommodated in the MMDS/ITFS frequency bands. By doing so, the Commission will remove the cloud of regulatory uncertainty hanging over MMDS/ITFS licensees -- a cloud that threatens the business plans of many MMDS/ITFS operators ready to deploy fixed wireless broadband services in the United States. By accommodating 3G services outside of the MMDS/ITFS frequency bands, the Commission can preserve its policies

[18] Final Report at i – ii.

promoting the advancement of competitive broadband wireless services to all Americans, while advancing its stated objective in this proceeding to bring new advanced mobile and fixed services to the public.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on this 16th day of April, 2001 a true and correct copy of the foregoing Comments of WorldCom, Inc. was sent by hand to the following:

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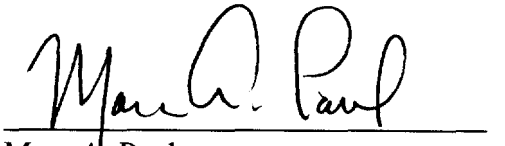

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